

REMARKS

Applicant respectfully requests further examination and reconsideration in view of the remarks set forth below. Claims 7-22 and 24-27 were previously pending in this application. In the Office Action, Claims 7-20 and 24-27 have been rejected and Claims 21 and 22 have been objected to. By the above amendment, Claims 7, 11, 17, and 27 have been amended. Accordingly, Claims 7-22 and 24-27 are currently pending.

Claim Rejections under 35 U.S.C. § 103

Within the Office Action, Claims 7-17, 20, and 24-27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,577,115 issued to Deutsch et al. (hereinafter referred to as "Deutsch") in view of U.S. Patent No. 5,400,397 issued to Ryu. Within the Office Action, Claims 18 and 19 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Deutsch in view of Ryu and further in view of U.S. Patent No. 5,555,300 issued to Gutzmer. The Applicant respectfully traverses this rejection.

Deutsch discloses an interface to a telephone service provider. This can be seen from Figs. 1A and 4A of Deutsch where the customer premise equipment (CPE) 10 of Deutsch is connected to a "public switched telephone network 15." The invention disclosed by Deutsch involves interfacing to a tip and ring connection of a telephone service provider via a standardized and regulated interface. Upon initial connection of the CPE to the network interface of Deutsch, the interface adapter switch routes the signals from the network to the circuitry controlling the CPE based on the assumption that the network is a T interface. The interface adapter monitors the communications between the CPE and the network to determine if the CPE is operable. If the CPE is operable, the interface adapter maintains this connection. If the CPE is not operable, interface adapter switch reroutes the signals and delivers the signals to other circuitry controlling the CPE and the interface adapter continues to monitor the communications between the CPE and the network. In an alternative embodiment of Deutsch, an interface

recognition unit connects to the network interface to identify the network interface and properly route signals to the appropriate circuitry for controlling the CPE. The interface recognition unit includes an interface recognition switch for comparing the signals on lines of the network interface to the known signals for various interfaces and for routing the signals based on the results of those comparisons. However, Deutsch does not teach interfacing the telephone switching system to a telephony appliance which uses different initialization signals (PBX compatible phone by a different manufacturer) than that of the telephone switching system. Deutsch discloses nothing more than a telephone service provider. Deutsch also does not teach interfacing the telephone switching system to a telephony appliance which does not provide initialization signals, such that the telephony appliance itself must first be identified before it is interfaced with the telephone switching system. In addition, Deutsch does not teach means for identifying a first communication protocol and a second communication protocol utilized by the telephony appliance and the telephone switching system, respectively, without having to monitor communications between the two devices.

Ryu discloses a private automatic branch exchange that allows a digital key telephone set and a standard telephone set connected to one extension port to operate as completely different extensions. To enable both telephone extensions or telephone sets to be used as separate extensions, the standard telephone set is connected to two remaining wires when the digital telephone set is connected to two wires of a 4-wire extension in an automatic private branch exchange equipped with four-wire extension ports. A controller in Ryu is provided with a function to discriminate the kind of a terminal relating to an event when the event is received. Each extension port can be equipped with two extension numbers, and a storage part stores the extension number at every connected terminal. When a call is made a call signal is sent from a first call processing part to the digital telephone set, and it is sent from a second call processing part to the standard telephone set. Each telephone set in Ryu requires its own compatible interface device. The interface devices in Ryu cannot automatically configure itself according to the protocol utilized by the telephony appliance. The interface devices in Ryu simply

transmit/receive data signals to/from the telephone sets coupled to their respective interface devices. The telephony appliances in Ryu cannot use a different communication protocol than that of the system. Ryu also does not interface devices by first identifying communication protocols before the devices begin communicating with one another. Ryu simply provides extensions to the telephone sets, and discloses no extended operability beyond the private automatic branch exchange.

In contrast to the teachings of Deutsch and Ryu, the present invention interfaces a telephony appliance to a telephone switching system, whereby the telephony appliance may use a different communication protocol than that of the telephone switching system. The specification of the present application states that many of the telephone appliances, such as VoIP telephones or an IP telephony gateway, do not provide signals that can be analyzed and must be identified before being interfaced with the telephone switching system. The present invention identifies and determines an appropriate communication protocol for the telephony appliance by applying a relatively limited amount of voltage and current to the connectors of the port of the telephony appliance. Once the telephony appliance is identified, the present invention loads the appropriate communication protocol for the identified telephony appliance. In addition, the present invention loads the communication protocol for the telephone switching system. The present invention then uses the communication protocol for the identified telephony appliance and the communication protocol for the telephone switching system to establish an interface between the two devices. In contrast to the present invention, Deutsch does not teach determining a communication protocol of the telephony appliance itself. Deutsch merely teaches determining the communication protocol between the telephone switching system and the various types of digital ISDN telephone service or tip and ring telephone service. [See Deutsch's Summary of the Invention]. In fact, neither Deutsch nor Ryu can interface the telephony appliance in the present invention with the telephone switching system by merely monitoring communications between the two devices, because both communication protocols must first be identified in the present invention before the two devices begin communicating with one another. Accordingly, neither

Deutsch, Ryu nor their combination teach the feature of identifying the first communication protocol and the second communication protocol before the telephony appliance and the telephone switching system begin communicating with one another.

The amended independent Claim 7 is directed to an interface apparatus for interfacing a telephony appliance to a telephone switching system. The interface apparatus comprises a signal path through the apparatus for communicating signals between the telephony appliance and the telephone switching system. The interface apparatus also comprises means for identifying a first communication protocol utilized by the telephony appliance from among a plurality of communication protocols and for configuring the signal path according to the protocol. The interface apparatus further comprises means for identifying a second communication protocol utilized by the telephone switching system from among the plurality of communication protocols and for configuring the signal path according to the protocol, wherein the first communication protocol and the second communication protocol must first be identified before the telephony appliance and the telephone switching system begin communicating with one another. As mentioned above, neither Deutsch, Ryu nor their combination teach the feature of identifying the first communication protocol and the second communication protocol before the telephony appliance and the telephone switching system begin communicating with one another. For at least these reasons, the amended independent Claim 7 is allowable over the teachings of Deutsch, Ryu and their combination.

Claims 8-10 depend upon the amended independent Claim 7. As discussed above, the amended independent Claim 7 is allowable over the teachings of Deutsch, Ryu and their combination. Accordingly, Claims 8-10 are allowable as being dependent upon an allowable base claim, and are now in condition for allowance.

The amended independent Claim 11 is directed to a method of interfacing a telephony appliance to a telephone switching system. The method comprises the step of providing a signal path for communicating signals between the telephony appliance and the telephone switching system. The method also comprises the step of identifying a first communication protocol

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utilized by the telephony appliance from among a plurality of communication protocols. The method also comprises the step of identifying a second communication protocol utilized by the telephone switching system from among the plurality of communication protocols, wherein the first communication protocol and the second communication protocol must first be identified before the telephony appliance and the telephone switching system begin communicating with one another. The method further comprises the step of configuring the signal path according to the protocol utilized by the telephony appliance and according to the protocol utilized by the telephone switching system. As mentioned above, neither Deutsch, Ryu nor their combination teach the feature of identifying the first communication protocol and the second communication protocol before the telephony appliance and the telephone switching system begin communicating with one another. For at least these reasons, the amended independent Claim 11 is allowable over the teachings of Deutsch, Ryu and their combination.

Claims 12-16 depend upon the amended independent Claim 11. As discussed above, the amended independent Claim 11 is allowable over the teachings of Deutsch, Ryu and their combination. Accordingly, Claims 12-16 are allowable as being dependent upon an allowable base claim, and are now in condition for allowance.

The amended independent Claim 17 is directed to a method of interfacing a telephony appliance to a telephone switching system. The method comprises the step of determining whether the telephone switching system communicates voice signals as digital samples or as analog signals. The method also comprises the step of determining whether the telephony appliance communicates voice signals as digital samples or as analog signals. The method also comprises activating a first signal path when the telephone system communicates voice signals as digital samples, the first signal path for communicating the voice signals between the telephony appliance and the telephone switching system wherein the first signal path includes a converter for converting the digital samples into an analog signal. The method also comprises the step of activating a second signal path when the telephone system communicates voice signals in analog format, the second signal path for communicating the voice signals between the telephony

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appliance and the telephone switching system wherein the second signal path includes analog signal processing circuits. The method further comprises the steps of identifying a first communication protocol utilized by the telephone switching system; and identifying a second communication protocol utilized by the telephony appliance, wherein the first communication protocol and the second communication protocol must first be identified before the telephony appliance and the telephone switching system begin communicating with one another. As mentioned above, neither Deutsch, Ryu nor their combination teach the feature of identifying the first communication protocol and the second communication protocol before the telephony appliance and the telephone switching system begin communicating with one another. For at least these reasons, the amended independent Claim 17 is allowable over the teachings of Deutsch, Ryu and their combination.

Claims 18-22 and 24-26 depend upon the amended independent Claim 17. As discussed above, the amended independent Claim 17 is allowable over the teachings of Deutsch, Ryu and their combination. Accordingly, Claims 18-22 and 24-26 are allowable as being dependent upon an allowable base claim, and are now in condition for allowance.

The amended independent Claim 27 is directed to a method of interfacing a telephony appliance to a telephone switching system. The method comprises the step of determining a first communication protocol of the telephone switching system. The method also comprises the step of determining a second communication protocol of the telephony appliance, wherein the first communication protocol and the second communication protocol must first be identified before the telephony appliance and the telephone switching system begin communicating with one another. The method further comprises the step of translating a communication according to the first communication protocol of the telephone switching system and further according to the second communication protocol of the telephony appliance. As mentioned above, neither Deutsch, Ryu nor their combination teach the feature of identifying the first communication protocol and the second communication protocol before the telephony appliance and the telephone switching system begin communicating with one another. For at least these reasons,

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the amended independent Claim 27 is allowable over the teachings of Deutsch, Ryu and their combination.

For the reasons given above, the Applicant respectfully submits that Claims 7-22 and 24-27 are now in a condition for allowance, and allowance at an early date would be appreciated. Should the Examiner have any questions or comments, he is encouraged to call the undersigned at (408) 530-9700 to discuss the same so that any outstanding issues can be expeditiously resolved.

Respectfully submitted,
HAVERSTOCK & OWENS LLP

Dated: 6-4-04

By:



Thomas B. Haverstock
Reg. No.: 32,571
Attorneys for Applicant

CERTIFICATE OF MAILING (37 CFR § 1.8(a))

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